

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:		Date of mailing (day/month/year)	See form PCT/ISA/210
Applicant's or agent's file reference 0000055287		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2005/000422	International filing date (day/month/year) 18.01.2005	Priority date (day/month/year) 27.01.2004	
International Patent Classification (IPC) or both national classification and IPC C07C69/54, C07C67/08, C07C67/26			
Applicant BASF Aktiengesellschaft			

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input checked="" type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/000422

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/000422

Box No. III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
- ☒ claims Nos. 1-3 (in part), 14-16

because:

- ☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

- ☒ the claims, or said claims Nos. 1-13 (in part) are so inadequately supported
by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. 14-16

- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

- ☐ has not been furnished
- ☐ does not comply with the standard

the computer readable form

- ☐ has not been furnished
- ☐ does not comply with the standard

- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

- ☐ See Supplemental Box for further details.

WRITTEN OPINION OF THE
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International application No.

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
- ☐ paid additional fees under protest
- ☒ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
- ☒ not complied with for the following reasons:

See supplemental sheet

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☐ all parts
- ☒ the parts relating to claims Nos. 1-13 (in part)

WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	10-13	YES
	Claims	1-9	NO
Inventive step (IS)	Claims	10-13	YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations:

1. Documents cited:

- D1: JP-A-10029292 (HCAPLUS Abstract and online translation of the JPA)
- D2: DATABASE REGISTRY STN; 203179-84-4
- D3: US-A-5 326 826
- D4: US-A-5 623 014
- D5: EP-A-0 003 516

2. Novelty: PCT Article 33(2)

2.1 D1-D2 disclose, with the CAS number 203179-84-4(p), a polymer which is prepared from the compounds 201610-44-8 (containing 3,4-DHP) and 141-32-2 (i.e. a compound having a free-radically polymerizable double bond). According to paragraphs 125-128 and the examples (see online translation of the JPA), dispersions of this polymer are prepared. The subject matter of claims 1-9 is therefore not novel.

2.2 D3 discloses dispersions (see D3: column 14 lines 18-47) of, for example, polymers of 1,2,4-trihydroxy-phenyl monomethacrylate (monomethacrylate of hydroxy-hydroquinone) (D3: column 8 lines 8-47). Even though such polymers may fall within the subject matter of the

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citations and explanations supporting such statement

claims, it is not clear from D3 whether and how many 3,4-DHP groups these polymers contain. Polymers according to the application are not disclosed explicitly in D3 and can be described only after a series of selections. The subject matter of claims 1-13 is therefore novel over D3.

2.3 D4-D5 describe alternative dispersions which crosslink at room temperature. D4-D5 do not disclose the claimed polymers containing 3,4-DHP.

3. Inventive step: PCT Article 33(3)

3.1 In order to demonstrate the inventive steps of claims 1-9, the crucial feature compared to the cited documents should be indicated and it should be stated whether an unexpected technical effect is associated with it, and why this crucial feature is not discernible from the teaching of the prior art D1-D5.

3.2 Starting from D4-D5 as the closest prior art, it is not obvious to use dispersions according to the original claim 7 in order to provide further alternative products according to claims 10-13.

4. The subject matter of claims 1-11 is industrially applicable.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Boxes III and IV

As mentioned in the search report, the original set of claims does not meet the requirements of PCT Article 5 and 6. The search was therefore **restricted to the following subject:**

"Dispersion of a copolymer in water, organic solvents or mixtures thereof, characterized in that the copolymer contains at least 0.001 mol of 3,4-dihydroxyphenyl groups (calculated at 109 g/mol) for 100 g of polymer, the copolymer being a polymer obtainable by free-radical polymerization of i) ethylenically unsaturated monomers and ii) monomers according to claim 7 in conjunction with claims 6, 5 and 4".

The International Examining Authority is in agreement with the objection owing to lack of unity made by the International Searching Authority (see form PCT/ISA/206, pages 1-2).

This opinion is therefore established on the first invention (claims 1-13 with the abovementioned restriction).

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